Clinical Research

ENT Updates 2016;6(1):43–45
doi:10.2399/jmu.2016001008

ENT updates
www.entupdates.org

Incidence of occult lymph node metastasis in patients with head and neck cancer

Onur Kırat, Mehmet Özgür Pınarbaşlı, Melek Kezban Gürbüz, Ercan Kaya, Erkan Özüdoğru

Department of ENT, Faculty of Medicine, Eskişehir Osmangazi University, Eskişehir, Turkey

Abstract

Objective: The objective of the study is to determine the incidence of occult lymph node metastasis detected in patients with head and neck cancer who applied to our clinic.

Methods: Medical files of 107 patients who had been diagnosed as head and neck cancer between 2007 and 2012 were retrospectively examined. The patients who were accepted as N0 both clinically and radiologically at the time of diagnosis and those who had undergone neck dissection in addition to the treatment of primary tumor were included in the study. The patients were grouped based on the diagnosis of the primary tumor. Histopathology results of the patients and those with lymph node metastasis were documented. The proportion of the patients with occult lymph node metastases was calculated and primary tumor sites with a higher probability of occult lymph node metastases were determined.

Results: A total of 64 patients were included in the study who were diagnosed as laryngeal (n=42; 65.6%), oral cavity (n=15; 23.4%), parotid gland (n=5; 7.8%), nasal cavity (n=1; 1.5%) and auricular (n=1; 1.5%) carcinomas. Histopathologically lymph node metastases were detected in patients with laryngeal (n=12; 70.5%), oral cavity (n=4; 23.5%) and parotid gland (n=1; 5.8%) carcinomas. Laryngeal cancers were subdivided into supraglottic (n=4), transglottic (n=7) and glottic (n=1) cancers. The highest rate of metastasis was detected in patients with transglottic laryngeal carcinoma.

Conclusion: Occult lymph node metastasis is an important issue which should be kept in mind in cases with head and neck cancers. Location of primary tumor is an effective influential factor concerning this issue. As a result of this study, we thought that occult lymph node metastases are frequently seen in patients with transglottic laryngeal cancers.

Keywords: Head and neck carcinoma, neck dissection, occult lymph node metastasis.

Özet: Baş ve boyun kanserli hastalarda gizli lenf nodu metastazı insidansı

Amaç: Bu çalışmanın amacı kliniğimize başvuran baş-boyun kanserli hastalarda saptanan gizli lenf nodu metastazı oranını belirlemektir.

Yöntem: Kliniğimizde 2007 ile 2012 tarihleri arasında baş ve boyun kanseri tanısı alan 107 hastanın dosyası retrospektif olarak incelendi. Tanı anında klinik ve radyolojik olarak N0 kabul edilen ve primer tümörün tedavisine ek olarak boyun diseksiyonu yapılan hastalar çalışmaya dâhil edildi. Hastalar primer tümör tanısına göre gruplandırıldı. Hastaların patoloji sonuçları dokümante edildi ve lenf nodu metastazı olan hastalar tespit edildi. Gizli lenf nodu metastazına sahip hastaların oranı hesaplandı ve gizli lenf nodu metastazı ihtimali yüksek olan primer tümör bölgeleri belirlendi.

Bulgular: Çalışmamıza dahil edilen toplam hasta sayısı 64'tür. Altmış dört hastanın 42'si (%65.6) larenks, 15'i (%23.4) oral kavite, 5'i (%7.8) parotis bezi, 1'i (%1.5) nazal kavite, geri kalan 1'i (%1.5) ise aurikula kanseri tanısı olan hasta idi. Larenks kanseri olan 12 (%70.5) hastada (4'ü supraglottik, 7'si transglottik ve 1'i glottik), oral kavite kanseri olan 4 (%23.5) hastada ve parotis kanseri olan 1 (%5.8) hastada histopatolojik olarak lenf nodu metastazı mevcut idi. Larenks kanseri, supraglottik (n=4), transglottik (n=7) ve glottik (n=1) alt gruplarına ayrılmaktaydı. En yüksek gizli lenf nodu metastaz oranı transglottik larenks kanserinde tespit edildi.

Sonuç: Baş boyun kanserlerinde gizli lenf nodu metastazı akılda tutulması gereken önemli bir konudur. Bu konuda önemli etkili husus ise primer tümörün lokalizasyonudur. Bu çalışma sonucunda transglottik larenks kanserlerinde gizli lenf nodu metastaz oranının yüksek olduğunu düşünüyoruz.

Anahtar sözcükler: Baş ve boyun kanseri, boyun diseksiyonu, gizli lenf nodu metastazı.

The incidence of occult lymph node metastasis in patients with clinically and radiologically N0 head and neck cancers ranges between 4 and 40 percent.[1] In these cancer patients, number, location and extent of lymph node metastasis are important issues in accurate planning of the treatment, prediction of patient's prognosis and evaluation of treatment

Correspondence: Mehmet Özgür Pınarbaşlı, MD. Department of ENT, Faculty of Medicine, Eskişehir Osmangazi University, Eskişehir, Turkey.
e-mail: ozgurpinarbasli@gmail.com

Received: October 12, 2015; **Accepted:** November 10, 2015

This paper was presented at 37th National Congress of Otorhinolaryngology held in Antalya, Turkey on October 28–31, 2015.

Online available at:
www.entupdates.org
doi:10.2399/jmu.2016001008
QR code:

deomed

response. Increased incidence of lymph node metastases enhances the probability of local recurrence and remote metastases and decreases survival rates nearly 50 percent.[2]

The incidence of lymph node metastasis changes with characteristics and location of primary tumor. In the present study, the frequency of occult lymph node metastasis has been determined during the diagnostic process of the patients with head and neck N0 cancers who had received surgical treatment.

Materials and Methods

Medical files of 107 patients with head and neck cancer who applied to the polyclinics of Ear-Nose and Throat Department between the years 2007 and 2012 were retrospectively analyzed. At the time of diagnosis, patients in whom metastatic lymph nodes were not detected during otorhinolaryngological examinations, neck ultrasound (US) and neck computed tomography (CT) and had undergone neck dissection in addition to the treatment of the primary tumor were included in the study. The patients were grouped based on the location of the primary tumor. Patients with laryngeal cancer were divided into groups of supraglottic, glottic and transglottic cancer. The incidence rates of the patients with preoperatively accepted as N0 in TNM classification but had revealed lymph node metastasis in postoperative histopathological examination were determined. Locations of primary tumors with higher percentage of occult lymph node metastases were documented.

Results

In preoperative TNM classification, 64 (8 women and 56 men) patients with a mean age of 59.8±9.8 (range: 34 to 79) years who were radiologically and clinically accepted to be in stage N0 according to preoperative TNM classification were included in the study. Primary tumor was localized in larynx (n=42; 65.6%), oral cavity (n=15; 23.4%), parotid gland (n=5; 7.8%), nasal cavity (n=1; 1.5%) and auricula (n=1; 1.5%) (Fig. 1).

In postoperative evaluation 17 (26.5%) of a total 64 patients, pathological lymph nodes were detected. In 12 (70.5%) of these 17 patients primary tumor was localized in larynx (n=12; 70.5%), oral cavity (n=4; 23.5%) and parotid gland (n=1; 5.8%). Among 12 patients with laryngeal cancer, cases with supraglottic (n=4), transglottic (n=7) and glottic (n=1) cancer were detected. In 4 patients with oral cavity cancers, primary tumor was localized in tongue in 3 and base of the oral cavity in 1 patient. When patients with occult lymph node metastases were grouped within themselves, the highest rate (70.5%) of lymph node metastases was detected in laryngeal cancer group and in transglottic laryngeal cancer (41.1%) in this group (Fig. 2).

When patients included in the study group were analyzed within their own subgroups, since in 12 out of a total 42 patients with laryngeal cancer lymph node metastases

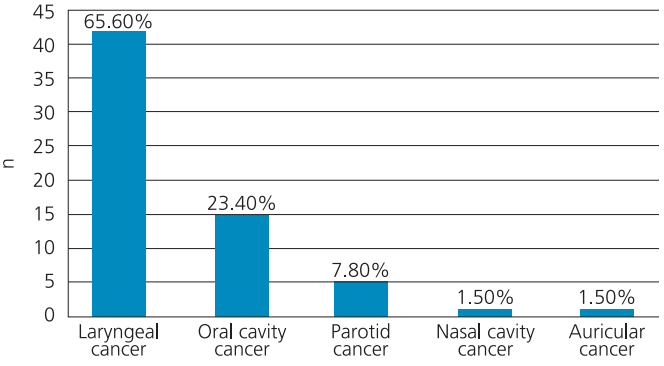

Fig. 1. Percentages of the patients considered to be in stage N0.

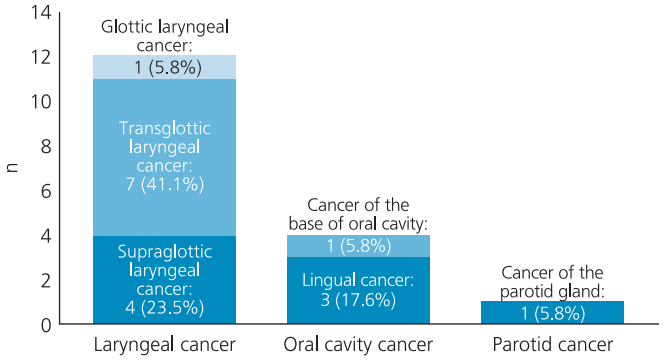

Fig. 2. Percentages of the patients with lymph node metastases.

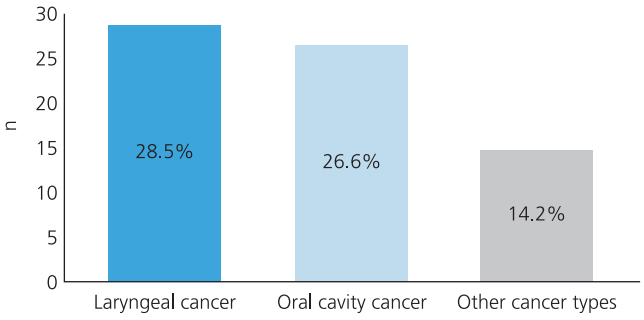

Fig. 3. Percentages of the patients with occult lymph node metastases.

were detected, the rate of occult lymph node metastases was detected as 28.5 percent. While 4 out of 15 patients with oral cavity cancers lymph node metastases were detected, so the rate of occult lymph node metastasis was estimated as 26.6 percent. In other patients (parotid gland, nasal cavity and auricular cancer) the corresponding rate was found to be 14.2 percent (Fig. 3).

Discussion

In patients with head and neck cancer, accurate evaluation of lymph node metastases during preoperative period effects treatment method to be performed and prognosis of the patient. In a study performed by Cerezo et al., 5-year survival rates in patients with only one lymph node metastasis was found to be 41%, while in patients with 2 or ≥3 lymph node metastases it was 22 percent.[3]

Knowing the group of patients with higher rates of occult lymph node metastases can aid in determination of type of lymph node dissection in the planning of surgery and/or specification of radiotherapy application field. This issue is crucial especially in patients who during preoperative period had been clinically and radiologically accepted as N0 patients. Literature reviews demonstrate that the incidence of occult metastases ranges between 15 and 20 percent.[4] Also in our study this rate was detected as 28.5% in accordance with literature findings. In a study by Woolgar performed on oral cavity cancers, the authors detected occult lymph node metastases in 21% (n=32) of 152 patients with N0 stage oral cavity cancers.[5] In our study in 4 (26.6%) of 15 patients with N0 oral cavity cancers occult lymph node metastases were detected. In a study by Pillsbury et al.,[6] the incidence rates of occult lymph node metastases were 36% in transglottic, 13% in glottic and 25.6% in supraglottic laryngeal cancers, and 29% in oral cavity cancers. In line with these results, the highest rate of occult lymph node metastases was determined in transglottic laryngeal cancers, followed by oral cavity cancers. In our study, the highest rate of occult lymph node metastases was detected in patients with transglottic laryngeal cancers, followed by supraglottic laryngeal cancers and oral cavity cancers in decreasing order of frequency. This discrepant outcome of our study was thought to be related to the scarce number of patients with oral cavity cancers.

In conclusion, as seen in studies performed and in our study, the rate of occult lymph node metastases is closely related to the primary tumor site. Therefore especially in transglottic laryngeal cancers and oral cavity cancers occult lymph node metastases are seen at higher rates we recommend addition of prophylactic lymph node dissection to the treatment plan of the patients.

Conflict of Interest: No conflicts declared.

References

1. Mandapathil M, Teymoortash A, Heinis J, et al. Freehand SPECT for sentinel lymph node detection in patients with head and neck cancer: first experiences. Acta Otolaryngol 2014;134:100–4.
2. Mamelle G, Pampurik J, Luboinski B, Lancar R, Lusinchi A, Bosq J. Lymph node prognostic factors in head and neck squamous cell carcinomas. Am J Surg 1994;168:494–8.
3. Cerezo L, Millán I, Torre A, Aragón G, Otero J. Prognostic factors for survival and tumor control in cervical lymph node metastases from head and neck cancer. A multivariate study of 492 cases. Cancer 1992;69:1224–34.
4. Gallo O, Boddi V, Bottai GV, Parrella F, Storchi OF. Treatment of the clinically negative neck in laryngeal cancer patients. Head Neck 1996;18:566–72.
5. Woolgar JA. Pathology of the N0 neck. Br J Oral Maxillofac Surg 1999;37:205–9.
6. Pillsbury HC 3rd, Clark M. A rationale for therapy of the N0 neck. Laryngoscope 1997;107:1294–315.

Please cite this article as: Kırat O, Pınarbaşlı MÖ, Gürbüz MK, Kaya E, Özüdoğru E. Incidence of occult lymph node metastasis in patients with head and neck cancer. ENT Updates 2016;6(1):43–45.